CONTENTS

Tectonophysics Volume 180

Special issue on Geologic and Tectonic Processes of the Dead Sea Rift Zone (edited by R.L. Kovach and Z. Ben-Avraham)

Preface IX

The Dead Sea transform fault system
Girdler, R.W. (Greenbelt, Md., U.S.A. and Newcastle upon Tyne, U.K.) 1

Fault geometry and spatial clustering of microearthquakes along the Dead Sea–Jordan rift fault zone
Van Eck, T. and Hofstetter, A. (Holon, Israel) 15

Lithospheric structure of the Jordan–Dead Sea transform from earthquake data
El-Isa, Z.H. (Amman, Jordan) 29

Transverse faults at the northern end of the southern basin of the Dead Sea graben
Ben-Avraham, Z., Ten Brink, U. (Ramat Aviv, Israel) and Charrach, J. (Beer Sheva, Israel) 37

Tectonic evolution of the Gulf of Aqaba–Dead Sea transform fault system
Barjous, M. and Mikbel, Sh. (Amman, Jordan) 49

Geophysical investigations in Jordan
Kovach, R.L. (Stanford, Calif., U.S.A.), Andreasen, G.E. (Urbanna, Va., U.S.A.) Gettings, M.E. (Tucson, Ariz., U.S.A.) and El-Kaysi, K. (Amman, Jordan) 61

Uplift and a possible Moho offset across the Dead Sea transform
Ten Brink, U.S. (Stanford, Calif., U.S.A.), Schoenberg, N. (Tel Aviv, Israel), Kovach, R.L. (Stanford, Calif., U.S.A.) and Ben-Avraham (Tel Aviv, Israel) 71

Structure and paleostresses in the Gilboa' region, western margins of the central Dead Sea rift
Hatzor, Y. and Reches, Z. (Jerusalem, Israel) 87

The evolution of Barahta rhomb-shaped graben, Mount Hermon, Dead Sea Transform
Heimann, A. (Qazrin, Israel), Eyal, M. and Eyal, Y. (Beer Sheva, Israel) 101

Spatial and temporal relationships between two sets of strike-slip faults in southeastern Sinai
Frei, L.S. and Freund, R. (Jerusalem, Israel) 111

Holocene tectonic deformation along the western margins of the Dead Sea
Gardosh, M., Reches, Z. and Garfunkel, Z. (Jerusalem, Israel) 123

Research Papers

Tectonosphere of the Earth: upper mantle and crust interaction
Beloussov, V.V. (Moscow, U.S.S.R.) 139

Reconstruction of deformation and flow parameters from deformed vein sets
Passchier, C.W. (Utrecht, The Netherlands) 185

Shape preferred orientation of object populations: automatic analysis of digitized images
Launeau, P., Bouchez, J.-L. and Benn, K. (Toulouse, France) 201

Phase transformations and inherited lattice preferred orientations: implications for seismic properties
Mainprice, D. (Montpellier, France), Humbert, M. and Wagner, F. (Metz, France) 213

A computer simulation of post-glacial rebound with partial water load
Sjöberg, O. (Åbo, Finland) 229

Groundwater radon anomalies associated with earthquakes
Igarashi, G. and Wakita, H. (Tokyo, Japan) 237

Volcanic earthquakes of Kamchatka: classification, nature of source and spatio-temporal distribution
Gorelchik, V.I., Zobin, V.M. and Tokarev, P.I. (Petropavlovsk-Kamchatsky, U.S.S.R.) 255

Body-waveforms and source parameters of some moderate-size earthquakes near North Island, New Zealand
Dziak, R.P. and Wesnousky, S.G. (Memphis, Tenn., U.S.A.) 273

Paleo-stress orientations from calcite twins in the North Pyrenean foreland, determined by the Etchecopar inverse method
Tourneret, C. and Laurent, P. (Montpellier, France) 287

Magneto-telluric recordings from the Friuli seismic zone, northeast Italy
Zadro, M. (Trieste, Italy), Ernst, T., Jankowski, J., Rozluski, C.P. and Teisseyre, R. (Warsaw, Poland) 303

Tectonic implications of paleomagnetic research into Upper Cretaceous magmatic rocks in the Apuseni Mountains, Romania
Patraşcu, S., Bleahu, M. and Panaiotu, C. (Bucharest, Romania) 309

Cooling and uplift histories of the crystalline thrust stack of the Indian Plate internal zones west of Nanga Parbat, Pakistan Himalaya
Treloar, P.J. (London, U.K.) and Rex, D.C. (Leeds, U.K.) 323
Westward migration of the Izu–Bonin Trench, northward motion of the Philippine Sea Plate, and their relationships to the Cenozoic tectonics of Japanese island arcs
Otsuki, K. (Sendai, Japan) 351
$^{40}Ar/^{39}Ar$ dating of amphiboles from Zabargad Island (Red Sea) is precluded by interaction with fluids
Villa, I.M. (Pisa, Italy) 369

Errata 375

Subject Index Volumes 171–180 379